

**WHAT IS CLAIMED IS:**

1. A system, comprising:

5 a chamber configured to process one or more wafers for the fabrication of  
microelectronic devices;

10 a plurality of reservoirs serially coupled to the chamber via a plurality of  
intervening pipes, wherein the system is adapted to transport a fluid used to  
process the wafers from the plurality of reservoirs to the chamber;

15 one or more devices adapted to maintain the fluid supplied to the chamber within  
a first temperature range; and

20 15 one or more additional devices adapted to maintain the fluid residing in a first set  
of the plurality of reservoirs within a second temperature range distinct  
from the first temperature range, wherein a second set of the plurality of  
reservoirs are used to maintain the fluid residing therein within a third  
temperature range distinct from the first and second temperature ranges.

25 20 2. The system of claim 1, wherein the chamber is configured to conduct an  
electroless deposition process.

3. The system of claim 1, wherein the system is further adapted to transport the fluid  
25 from the chamber to one or more of the plurality of reservoirs.

4. The system of claim 1, wherein the system is further adapted to circulate the fluid  
between at least two of the plurality of reservoirs.

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5. The system of claim 1, wherein the first temperature range is higher than the second temperature range.
6. The system of claim 1, wherein the second temperature range is higher than the 5 third temperature range.
7. The system of claim 1, wherein the first temperature range is lower than the second temperature range, and wherein the second temperature range is lower than the third temperature range.

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8. The system of claim 1, wherein the first temperature range comprises temperatures between approximately 42° C and approximately 50° C.
9. The system of claim 1, wherein the second temperature range comprises 15 temperatures between approximately 70° C and approximately 95° C.
10. The system of claim 1, wherein the third temperature range comprises temperatures between approximately 95° C and approximately 110° C.

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11. The system of claim 1, further comprising one or more different devices adapted to maintain the fluid residing in the second set of the plurality of reservoirs within the third temperature range.
12. The system of claim 1, further comprising one or more additional process 25 chambers coupled to at least one of the plurality of reservoirs.

13. A system, comprising:

a chamber configured to process one or more wafers for the fabrication of  
microelectronic devices;

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a plurality of tanks serially coupled to the chamber and adapted to store a fluid  
used to process the wafers; and

10 a plurality of temperature controllers positioned within the system such that the  
chamber and the plurality of tanks are characterized into at least three  
different zones based upon adaptations of the temperature controllers to  
maintain the fluid within distinct temperature ranges in the respective  
zones while processing the wafers.

15 14. The system of claim 13, wherein the plurality of temperature controllers are  
positioned such that the at least three different zones are arranged in ascending order  
based upon their respective temperature ranges, and wherein the zone comprising the  
chamber has the highest temperature range.

20 15. The system of claim 13, wherein the plurality of temperature controllers are  
positioned such that the at least three different zones are arranged in descending order  
based upon their respective temperature ranges, and wherein the zone comprising the  
chamber has the lowest temperature range.

25 16. The system of claim 13, wherein one of the plurality of temperature controllers is  
arranged within the chamber.

17. The system of claim 13, wherein one of the plurality of temperature controllers is  
coupled to a fluid inlet of the chamber.

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18. The system of claim 13, wherein one of the plurality of temperature controllers is coupled to one of a plurality of pipes configured to transport the fluid from the plurality of tanks to the chamber.

5 19. The system of claim 13, wherein one of the plurality of temperature controllers is arranged within one of the plurality of tanks.

20. The system of claim 13, wherein at least one of the plurality of temperature controllers comprises an infrared heater.

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21. A method, comprising:

storing a fluid used to process microelectronic topographies within a storage tank of a microelectronic fabrication apparatus within a preliminary temperature range;

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transporting the fluid from the storage tank to an intermediate tank of the microelectronic fabrication apparatus;

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controlling the temperature of the fluid within the intermediate tank to be within a transitional temperature range distinct from the preliminary temperature range;

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delivering the fluid from the intermediate tank to a process chamber of the microelectronic fabrication apparatus; and

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controlling the temperature of the fluid within the process chamber to be within a process temperature range distinct from the preliminary and transitional temperature ranges.

22. The method of claim 21, wherein the step of transporting the fluid from the storage tank to the intermediate tank comprises circulating the fluid between the storage tank and intermediate tank.

5 23. The method of claim 21, further comprising recirculating the fluid from the chamber to at least one of the intermediate and storage tanks.

24. The method of claim 21, wherein the steps of controlling the temperature within the intermediate tank or process chamber comprises heating the fluid.

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